Convocation 2016
"Building on Our Possibilities"
August 18, 2016, Illinois Mathematics and Science Academy, Aurora, Illinois
Dr. José M. Torres, President
Illinois Mathematics and Science Academy

Greetings! I'd like to welcome our distinguished guests: member of our Board of Trustees, Leslie Juby; President of the IMSA Fund Board of Directors, Ross Hemphill; our elected officials, State Representative Stephanie Kifowit, Mayor Tom Weisner and representing State Representative Linda Chapa LaVia, Lillian Perry; our distinguished Ambassadors and Emeriti; Founding President and President Emerita, Stephanie Pace Marshall, who in June of this year was installed as the (first female) Chancellor of the Lincoln Academy of Illinois; our distinguished faculty, new and returning; our staff, including Residential Life, Professional Field Services and everyone else; and the Class of 2019, the Class of 2018 and our seniors, the Class of 2017.

Welcome to the 2016 Convocation, the 30th Convocation of the Illinois Mathematics and Science Academy! To the Class of 2019—a special welcome to you—as you are the 30th class. Welcome to all of you—students! As you know, attending IMSA is a privilege and a gift from the people of Illinois. We recognize your potential and are investing in your future. Welcome all to the 30th Convocation of IMSA and to the 2016-2017 school year.

Today is a historic date in the life of our Illinois Mathematics and Science Academy. On September 7, 1986, 30 years ago, Stephanie Pace Marshall led our Academy's first Convocation, which was in the evening. Nobel Laureate and our Founder, Dr. Leon Lederman, offered remarks.

There are current or former staff, Emeriti and Ambassadors who were with us 30 years ago, including Cathy Veal, Kim Lehman, Jim Bondi, Dale Arentsen and Joan Dorian and others, and also Anthony Stuckey who was a charter class member (once a student, now a staff member). Let's recognize these individuals who were with us 30 years ago! Today, we stand on their shoulders and commit ourselves to make this world, our state, our IMSA a better place by advancing the human condition. We have the possibility of significantly influencing life on our planet because of these charter staff and founding Board members.

On August 25, 1986 at Community Learning Day before the 211 members of the Charter Class of 1989 had arrived, Dr. Marshall said, "we are at the dawn (Latin meaning of "Aurora") of an enterprise that will evolve into something quite extraordinary" (Marshall 1986). And wasn't she right, even prophetic, about this?

On the same day that students moved in, Convocation followed dinner. Parents had left their young son/daughter in the care of staff whom they hardly knew. Our current Chairman of the Board of Trustees, Sheila Griffin recalled, "I recall the day when the first students arrived. I was standing inside the building amidst all of the confusion that characterized that first day, when all of the students were moving in to their temporary living quarters. One of the students approached me and said, 'This is the first time I have ever felt like I really belong.' I knew at that moment that all of the hours and work we had devoted to the school were worth it" (Coates, 1998, p. 166).

Our first Convocation speaker, Dr. Leon Lederman presented the Class of 1989 “with a challenge to question, to explore and to dream” (Marshall, 1986). Dr. Lederman stated, "Now you may be surprised that the courses you take here in the next three years, although rich in science and math, will include good hard courses in English, Latin, art, history, literature. Why waste your time on these, you may ask? The answer is pretty simple: scientists must live and function in a complex world. They must be able to describe their results clearly and concisely; their recognition and their funding depend on it" (Lederman, 1986, p. 5).

Dr. Lederman concluded his Convocation remarks, "I now hasten to tell you that you are in for the time of your life—you will meet teachers and listen to distinguished visitors who will change your life. You will meet new friends who will stay friends forever. I can see the 20th reunion of the IMSA class of 1989. Nobel Laureates, brain surgeons, novelists, who knows, even a billionaire and a jailbird" (Lederman, 1986, p. 5-6).

In her remarks at Convocation, Dr. Marshall challenged the class to live out the true meaning of being a pioneer—who embody “a spirit of experimentation, risk-taking, and innovation, and an attitude of diligence, responsibility, hard work and service” (Marshall, 1986). A charter staff member recalled that first convocation and said, "The very first evening, when Dr. Leon Lederman spoke to the IMSA Charter Class, I remember feeling like everything seemed so surreal. At the beginning of the Convocation, all of the teachers processed into the auditorium. There we all were, all of us dressed in our appropriate academic gowns. I was struck by the thought...is this for real? Here we are pretending that there is really going to be a school here. I considered the question about whether or not we were really going to pull it off...all of these kids so far from home. I felt like standing up at the end of the convocation and saying, 'There's no school here kids!! Let's all go home!' Yet ten years later, here we are, more successful than we could have ever imagined!" (Coates, 1988, p. 164)

Thirty years later, while there have been minor revisions, our mission, values and commitment have remained nearly identical from those early years, which is typical of enduring values.

My first point is that a few people created IMSA—they envisioned the possibility that they could influence Illinois by creating a special school for special students. Their focus, tenacity, vision, relationships, risk-taking, and luck (serendipity) resulted in the Illinois Mathematics and Science Academy.

Today in 2016 the mission of IMSA, the world’s leading teaching and learning laboratory for imagination and inquiry, is to ignite and nurture creative, ethical, scientific minds that advance the human condition, through a system distinguished by profound questions, collaborative relationships, personalized experiential learning, global networking, generative use of technology and pioneering outreach.

Each of our almost 6,000 alumni has many stories about their experiences living and learning at IMSA. And you, too, will have many stories to tell, or already have some. I'd like for you to reflect on the one word that you would use to describe your experience as a student at IMSA. All staff, including faculty and former staff, emeriti, ambassadors, Trustees, everyone listening, I also invite you to take 60 seconds to reflect on a word that would describe your experience at IMSA. Whether your experience with IMSA is from long ago, or from a few weeks and days, let's take time to consider a word.

I'll give you time to think quietly for the next minute about the word that you would use to describe your experience at IMSA thus far. (pause) Now, let's take a minute and share with the person on your left or right the one word and what that one word means to you. (pause) Thank you for sharing with each other.

I asked our alumni to share a word with me to describe their time at IMSA. As I read their words listen for your word or your partner's word: *community* ('89), *opportunity* ('90), *challenging* ('91), *family* ('92), *uplift* ('93), *inspiring* ('94), *zest* ('95), *illuminating* ('96), *liberating* ('97), *growth* ('98), *transformative* ('99), *enlightening* ('00), *crucible* ('01), *challenging* ('02), *resolute* ('03), *life-changing* ('04), *horizon-broadening* ('05), *uniting* ('06), *transformative* ('07), *change* ('08), *unforgettable* ('09), *incredible* ('10), *humbling* ('11), *kith* ('12), *igniting* ('13), *advancing* ('14), *eye-opening* ('15), *triumph* ('16). Did you hear your word or the word that your partner shared?

The word that I thought of to describe my experience at IMSA over the past two years is "possibilities." Why "possibilities?" It is inspired by the caption, "Enrolling in Possibilities," that was written by Stephanie Pace Marshall for Dr. Leon Lederman's philosophy statement, which he presented to the Board of Trustees in 1986. "If we do what we know and feel is right, it is bound to happen that among our graduates there will be numbered scientists, engineers, and those who go on to earn degrees in law and letters. There are likely to be those few who *create* new intellectual worlds, cure a dreaded human ailment or in some other way significantly influence life on our planet. Our philosophy will be to treat our charges as if each one is capable of this extraordinary achievement. Only one such product will make the effort and expense of this school for its entire duration worthwhile" (Lederman, 1986). I chose the word "possibilities" because IMSA creates possibilities for you, our students, for our faculty and staff, and for our world.

Here's my second point. We are IMSA's legacy and have the awesome privilege and responsibility of building our next 30 years on this great foundation. Just like our founders, we must "treat our charges as if each one is capable of this extraordinary achievement" (Lederman, 1986). As we move forward into our next 30 years, consider the possibilities. What is possible when "a community of learners" becomes "a pioneering community" that aspires to be "a learning laboratory" committed to igniting and nurturing creative, ethical scientific minds that advance the human condition?

Rooted in our past, IMSA has always been about solving the world's problems—grand challenges, even if we might not have used those words. Proof of this is seen in her dissertation published in 1990; Connie Hatcher (1990) was a charter staff at IMSA who stated that the Academy had two primary goals: "(1) to provide an educational, social, and emotional climate in which students with exceptional aptitude in mathematics and science can develop their intellectual gifts and become committed to the search for humane solutions to our worlds' problems (sounds like Grand challenges to me) and (2) to serve as a laboratory for the development, testing, and dissemination of innovative techniques in mathematics, science and the humanities which can become a recourse for secondary school teachers in Illinois and the nation" (Hatcher, 1990, p. 48-49) In our 30th year, let's rededicate ourselves to our founding principles and seek new and innovative ways to embody them.

In 1997, before our current students were born, Apple launched an ad campaign with the tag line, "Think Different." As I stated earlier, thinking differently, divergently and in multidisciplinary ways perfectly encapsulates IMSA. First, we teach students to think differently. You are all bright, curious, excited, and hopefully risk takers that have great potential. IMSA is here to

challenge you to think critically about your world and develop creative sustainable solutions to its problems. Second, it's not enough to think different, you have to "act" and "do" different as well. Thirty years has shown that our alums approach the world differently and they focus on taking action. They see problems as opportunities and develop solutions.

Our key note speaker today, Yuanxia Ding, has applied the idea of "thinking" and "doing" different, too. I hope that she will share her newest initiative with us.

My final point is this, striving to find "humane solutions to our world's problems" is in our DNA. We have the possibility of seeking to solve a grand challenge—"Create new intellectual worlds, cure a dreaded human ailment or in some other way significantly influence life on our planet." The IMSA Board of Trustees endorsed a vision for IMSA that, "By 2022, IMSA is a recognized global leader and catalyst in equity and excellence in STEM teaching and learning, innovation and entrepreneurship."

In summary, what does this look like over the next 10 years? The next 30 years? I don't know. But I know it's a challenge worth tackling. It will define us for the next 30 years. While we don't know the specifics about how to integrate a grand challenge idea into our residential academy and outreach, we are designing the conditions and environment to develop decidedly different thinkers and doers during IMSA's next decade and beyond.

Grand challenges—How can we "advance the human condition" through addressing the grand challenges on campus? There will be multiple ways, but let me give you one example from this summer. Dr. Kazadi's students worked on an electrochemical device over the summer that aims to provide access to low-cost power to those without access to an electrical grid. According to the World Bank, approximately 1.1 billion people don't have access to electricity (Energy Home).

New Spaces—I can't wait for you to experience our new science labs and IN2 and find new ways to collaborate. Our science labs are more than a face lift; they are spaces for science, research, and innovation that foster collaboration and enable real-world application. These science labs will also model excellence for Illinois, the nation, and the world. They will be open today for classes! IN2—the Steve and Jaimie Chen Center for Innovation and Inquiry will open in several weeks.

Today, we are announcing two Launch Pads, which are permanent workspaces at IN2. These incubator spaces are dedicated to two promising early stage start-ups—one for educational technology and the second for an IMSA community venture. The IN2 EdTech Launch Pad sponsored by Robert M. Chang (Class of 1989) is a start-up space that aims to accelerate technology and product development by serving as an incubator and testbed for EdtTech startups. This year, the EdTech Launch Pad selected…well, I can't tell you because Dr. Dahleh is going to announce who was selected.

The second Launch Pad, the IN2 Impact: Community Venture—presented by Sam Yagan and Jessica Droste Yagan, (both from the Class of 1995) is an incubator space for promising community projects or early social entrepreneurship ventures led by IMSA community members. Again, Dr. Dahleh will announce who in this room was selected for this LaunchPad in just a few minutes.

IN2 and the Launch Pads are a result of 30 years of education, innovation, and inquiry; they exemplify IMSA's growing social entrepreneurship focus; this is something that you will only find at IMSA. You will not find this anywhere else in the state of Illinois in a K-12 setting!

Let me end with a final challenge to students, faculty/staff, and everyone in this room. Students: How will you leave your mark on the Academy? Could you help us think through Grand Challenges from your perspective? Could you create or lead a student activity that uses our new science labs and IN2 space in innovative ways? Faculty and staff: What bold idea will you try and, possibly fail? At the end of the year we want to celebrate the greatest achievements but also the most spectacular failures. If we don't fail, we haven't tried hard enough. Who will we celebrate as our biggest risk-taker? All: What would happen if we took seriously the idea of solving a grand challenge? What if we committed ourselves to reach a billion people in the next ten years through one of our grand challenges? Wouldn't all of us experience what Chairman Griffin experienced on that first move in day, "I knew at that moment that all of the hours and work we had devoted were worth it?"

Thank you.

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